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AUTHOR Sheinkopf, Sylvia
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ABSTRACT

Examined was the relationship between dependency behavior and learning in educable mentally retarded (EMR) children. Population included 120 subjects equally divided by sex into two groups of retardates and normals and subdivided into socially reinforced and non-reinforced Ss. The task measured overt or instrumental dependency (ID). Electronic stimuli ranging from 2 to 10 pulses per second were judged by subjects as slow or fast values. Subjects had free access to the anchor values (2 pps as slow, 20 pps as fast) to assist the decision. ID scores were based on frequency of anchor use. The Rohde Sentence Completion Test measured covert or emotional dependency (ED). Finally, a learning task based on the concept of opposition was presented. Results revealed higher ID scores for retardates, with significant correlations between IQ and ID as well as between IQ and Opposition Task. ED scores were not significant between and within groups. Conclusions include the inference that retardates' need to be reinstated. Increased anchor use prior to a decision influences their learning potential. (Author/KW)

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Sylvia Sheinkopf, Ed.D.
Cardinal Cushing School and Training Center
Hanover, Massachusetts 02339

PSYCHOEDUCATIONAL ISSUES IN EDUCABLE MENTAL
RETARDATEES: DEPENDENCY AND LEARNING

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ERRATUM

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On page 13, Chapter Three, second paragraph, lines 14 and 15 contain typographical errors.

LINE 14:

Currently reads: "showed a mean anchor use of 73.86...."

Change to read: "showed a mean anchor use of .82...."

LINE 15:

Currently reads: "anchor use of 48.63."

Change to read: "anchor use of .54."

ABSTRACT

An experimental study with educable mental retardates has examined the relationship between dependency behavior and learning. The population included 120 subjects equally divided by sex into two groups of retardates and normals and subdivided into socially reinforced and nonreinforced Ss.

The experimental task, a psychophysical task, measured overt or instrumental dependency (ID). Stimuli (90 values) ranging from 2 pps to 10 pps presented for 1.5 seconds were judged as slow or fast values. Free access to 2 pps (slow value) and 10 pps (fast value) as anchors assisted the decision. ID scores were based on frequency of anchor use. The Rohde Sentence Completion Test measured covert or emotional dependency (ED).

A final task based on the concept of opposition presented eight wooden squares through a continuum of size. Solution demanded that S point to the square opposite in size to the one chosen by E.

Analysis of variance revealed significant differences between groups on ID scores, with higher ID scores for the retardates. Intercorrelational matrices revealed significant correlations, ranging from $r.41$ to $r.52$, between IQ and ID as well as between IQ and Opposition Task. ED scores were not significant between and within groups.

Conclusions indicated that retardates were capable of responding appropriately to a complex psychophysical task and approximating a normal distribution of responses. An inference can be drawn that the need for retardates to be reinstructed by increased anchor use prior to a decision influenced their learning pattern. Psychoeducational issues implicit within this study suggest future experimental research on dependency behavior within retardates.

FINAL REPORT
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Sylvia Sheinkopf, Ed.D.
Cardinal Cushing School and Training Center
Hanover, Mass., 02339

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CHAPTER ONE

INTRODUCTION

I. Statement of Problem

An experimental study with educable mental retardates on the relationship between dependency and learning was explored. This study was undertaken to examine selected features of dependency behavior as they are related to learning processes of the mentally retarded. It was a nonverbal study organized within the larger framework of learning and personality theory.

The purpose of this study has been conceptualized as a search for a relationship between non-intellective variables (dependency behavior) and learning processes. An assessment protocol of a retardate cannot be considered valid if it ignores personality related and learning relevant variables. The thrust of this study has addressed itself to this issue. Dependency behavior of the retardate, a natural concomitant of extended immaturity, has been examined empirically.

II. Objective

The objectives of this study were:

1. To compare the dependency behavior of a group of mental retardates with a normal group.
2. To compare within and between retardates and normals, respectively, overt or instrumental dependency responses with covert or emotional dependency responses.
3. To compare within and between normals and retardates, respectively, the relationship between dependency behavior and the acquisition of a subsequent learning task.
4. To compare within the normals and the retardates the level of accuracy as a function of degree of dependent responses and social reinforcement.

III. Justification

The justification for this study is derived from the assumption that an assessment protocol of a retardate cannot be considered valid if it ignores the relationship between personality related and learning relevant variables. It follows, therefore, that dependency behavior of the retardate, a natural concomitant of extended immaturity, should be examined empirically. The need to look beyond intellectual and achievement variables has received minimum acknowledgment or attention.

Maximum independent behavior for retardates contributes an important component to the realization of community living. A study of dependency behavior and its relationship to learning could contribute additional insight into the retardates' developmental patterns. The significance of this study rests, in part, on the fact that experimental studies on dependency within a retarded population are noticeably absent from the growing body of psychological and learning research studies. As a catalytic agent, it could encourage productive, active interaction between the educator and the psychologist. Blackman (1963) has proposed that directions for research in special education cannot be planned without consideration and understanding of the growing body of psychological literature.

The behavior of the retardate cannot be fully explained by his IQ. Retardates, like normals, experience fears, anxieties, needs and despair. These affective components within their behavioral repertoire influence their everyday functioning (Sarason, 1957).

The prolonged dependency of the retardate underscores not only the need for investigating this non-intellective construct but also emphasizes the relevance of this study. germane to this investigation are three interrelated aspects of dependency behavior, namely, (1) the basic problem, (2) theoretical relevance and (3) operational relevance.

The basic problems of dependency behavior in a learning situation can be defined in terms of emotional development, interference with learning and disturbed personality integration. Emotional development can be retarded by high dependency, as infantile behavior persists. Initiative and exploration of environment can be delimited. Control of self, which is critical to learning, can be seriously affected. The ability to interact with peers in a variety of situations reflects the degree of personality integration within a retardate.

Theoretical relevance rests on both personality and

learning theory. Personality theory has related non-intellective as well as intellective variables with learning. Dependency has been well established within the literature as a non-intellective variable. Refusal to seek help when confronted with a difficult decision can often lead the retardate to inappropriate behavior and continued failures. The circularity of this phenomenon is self-evident. Of paramount significance in special education are the psychoeducational implications of dependency. Acquisition of academic skills are worthwhile goals. However, an understanding of a retardate's academic limitations only can limit educational designs. A proper perspective of the curriculum demands more than cursory attention to the non-academic. A teacher's attention to and understanding of non-intellective needs and potentialities make viable contributions to a student's total development.

Operational relevance is concerned with the dynamics of dependency as they are related to learning processes. Such relevance, therefore, will suggest implementation through new curricula and suggested adaptive techniques for institutionalized as well as non-institutionalized retardates. Prototypes of the instrumentation configuration may prove to be a valuable training device as well as a diagnostic and evaluative tool. Personality theory supports the hypothesis that rejection of dependency promotes inhibition of dependency (Cairns, 1961). Paradoxically, a shift to dependency has been suggested as the first step to its reduction (Havens, 1967). The availability of the anchors, within the experimental task, are proposed as being analogous to the presence and guidance of the teacher. The use of anchors are presented as being comparable to an educational dialogue between teacher and student.

IV. Scope

Within the scope of this study, dependency behavior of educable mental retardates has been compared with dependency of normals. The retarded students ranged in age from 8 years 6 months to 17 years 4 months. The normal students ranged from 8 years 3 months to 13 years 4 months. For the retardates, IQ range was from 50 to 86; for the normals IQ range was from 93 to 138.

V. Review of Related Research

A summarized review of literature appears within this report. An expanded review of literature will be found in Appendix A. The literature tells us that the area of mental retardation has been extensively studied and well documented. The investigation of intellectual deficits was

heightened with the development and refinement of the IQ test. With this development, came a specious feeling of progress in the field of mental retardation. Along with this, came a simplified point of view regarding retardation. Specific deficiencies, as originally conceived and described by Binet, were generally ignored. The determination of an intellectual quotient precluded the need for further searchings. Classification of individuals as normal or subnormal was firmly established by his IQ (Hermelin & O'Connor, 1958). Burt (1946) was one of the few early leaders in the field to follow Binet's lead. Burt's attention to differentiations within the retardate's learning deficiencies revealed that some functions were more affected than others. However, at the expense of the total functioning personality, intellectual and cognitive abilities continued to be emphasized. Retardation was characterized, essentially, by significant intellectual deficit, with a relative disregard for other contributing factors.

In recent years, however, there has been a growing awareness of the relationship between intellectual and non-intellectual variables as they contribute to the total behavior of the retardate. Adaptive, productive behavior results from the interaction of both variables. More studies have gradually concerned themselves with the relationship between intellectual potential and personality issues. Within the framework of personality theory, rigidity (Kounin, 1941a, 1941b), motivation (Zigler, 1966), anxiety (Lipman, 1960) and attention (Crosby & Blatt, 1968) are learning related constructs which have been investigated in retardates. However, dependency behavior of the retardate has escaped empirical study. For this reason, literature dealing with dependency in the retardate is limited in scope. Necessarily, this review is equally limited.

The problem of prolonged dependency in the retardate has been dealt with through theoretical discussion, anecdotal reporting and child-rearing surveys (Robinson & Robinson, 1965; Barsch, 1968; Sarason & Doris, 1969). Dependency behavior of the retardate, it was concluded, made rigorous demands on the parents. Appropriate, helpful responses from the parents were not always present. In their absence, over-protectiveness (Farber, 1960) or rejection of the retardate (Sarason & Doris, 1969) caused further confusion and frustration for both retardate and parent. The literature has repeatedly emphasized the importance of parent education. The development of constructive guidelines for parents confronted with behavior problems has been given high priority (Hastings, 1948; Popp et al, 1954; Forbes, 1958; Peck & Stephens, 1960). Spock and Lerrigo (1965) have suggested special training programs for parents of handicapped children. Barsch (1968) found that child-rearing practices employed with handicapped mentally retarded children did not differ significantly from the ones

used with their normal siblings. Moreover, a lack of creativity was noted. Although parents made allowances for the child's inability to learn, expectancy for learning was the same. Techniques used with normal siblings were used with the handicapped child. If failure resulted for the child, methods were not adapted to his limitations. Parents worried about the child's inability to learn but showed little ingenuity in coping with the problem. The special techniques and programs used by the therapists and teachers to motivate handicapped children were not initiated by the parents.

The intrinsic relationship of dependency with retardation demands a careful investigation of this personality construct as it affects the behavioral response of the retardate. Experiential learning provides an increasing storehouse of knowledge for the maturing infant and child. The nature of dependency when combined with a negative, restrictive response from the mothering figure or caretaker may impose critical limitations on the life experiences and adaptive behavior of a retardate.

Dependency as it occurs in the development of the normal child has been thoroughly examined in the literature. Dependency can be described as an early phase of socialization. Seeking help from others has been identified as overt or instrumental dependency and it is characteristic of infancy and early childhood. Controlling the situation through one's own abilities can be accepted as a description of instrumental independence. Covert or emotional dependency is reflected in the child's need for reassurance, affection or attention. Emotional independence evolves as the child's needs change in degree and direction (Heathers, 1955). Nurture, positive support and social reinforcement have been recognized as antecedents of dependency. Rejection by parents and punishment of dependency behavior have been generally associated with inhibition of dependency. Boys who have felt rejected by their parents showed reduced dependency behavior with teachers and peers (Sears et al, 1957; Bandura & Walters, 1963).

The dynamics and structure of dependency and independence in normals have been investigated by a variety of studies. A study by Beller (1955) of normal children presented data which allowed Beller to postulate a general dependency and independence behavior drive. His findings suggested that dependency and independence behavior contained a variety of components. These components strive for drive reduction. Bipolarity of dependency and independent behavior was not supported by this study. Beller hypothesized a general dependency drive which consisted of the following components: (1) seeking help, (2) seeking physical contact, (3) seeking proximity, (4) seeking

attention, and (5) seeking recognition. The general independence drive was hypothesized to contain five components, as follows: (1) taking initiative, (2) trying to overcome obstacles in the environment, (3) trying to carry activities to completion, (4) getting satisfaction from work and (5) trying to do routine tasks by oneself.

Heathers (1955) investigated emotional dependency and independence through nursery school play of normal children. The results of this study supported the findings of Beller (1955). Correlations of the variables of emotional dependency varies according to the variables being compared. This was equally true of correlations between emotional dependency and emotional independence. Heathers, like Beller, did not support dependence-independence as a single dimension of personality. In a study investigating effect of nurturance-withdrawal on a subsequent learning task, Hartup's (1958) data suggested that nurturance-withdrawal stimulated faster learning than nurturance, alone, on simple cognitive tasks for girls. The data was not as sharply conclusive for boys. A limited number of experimental studies with normals have used the reward of dependency responses as variables within the study. Incidence of children's dependent responses subsequent to the experiment were investigated by Nelsen (1963). The experiment had provided both reward and punishment of dependency. Cairns (1963) reported that children's learning was facilitated on a discrimination task following reward for dependent responses in an experimental task. Cairns (1961) also investigated the influence of dependency inhibition on the effectiveness of social reinforcement. Groups of adolescent delinquent boys who differed with respect to dependency inhibition were studied in two experimental learning situations. Cairns derived his hypotheses from the general behavior theory regarding development of dependency. Hypotheses expectations were supported. Subjects who manifested low dependency inhibition sought the examiner's help readily in the experimental task. Subjects high in dependency inhibition did not seek help and rejected help when it was offered. Procedural suggestions were made for persons who were involved with the retraining of children high in dependency inhibition.

Studies concerned with reinforcement have shown that retardates are responsive to variations in type and magnitude of the reinforcer. Zigler, Hodgen and Stevenson (1958) compared the effect of support and non-support on the performance of normal and retarded children. The stated hypothesis was that motivation to interact with the examiner would determine performance of the subjects. Differences would not be attributable to rigidity as advanced by Kounin (1941a, 1941b). The most significant finding of this study was that the behavior of the retardates was more

affected by interaction with an adult than the behavior of the normals. Stevenson and Cruse (1961) investigated the effectiveness of social reinforcement in modifying performance over a five day period. Three experimental conditions were employed, altering degree of reward and presence of examiner. Performance of the normal children differed as a function of the three experimental conditions. There was no difference in the performance of the retarded as a function of social reinforcement. Stevenson and Cruse have pointed out that the majority of retardates spent the full time allotment on the task. This created an artificial ceiling on performance.

The review of literature as discussed above has revealed a history of restricted interests in educational research among retardates. In early studies, complex behavior of the retarded individual was explained away by an index. Early simplistic investigations justified their efforts through the ubiquitous IQ. A denial of the retardate's affective responses and psychological needs has exercised subtle constraints on research. Learning theories have burgeoned. Controversial issues in education have flourished, revealing amazing ingenuity. The retardate, however, has remained well beyond the pale of educational research activity. Very slowly, the inhuman characteristics which were imposed upon the retardate have been removed. The boundaries of behavior, immobilized by a reverential bow to IQ, have been yielding to expansion and rearrangement. New directions in research are beginning to interrelate the innumerable factors involved in total functioning. Productive, competent behavior of the retardate is gradually being recognized as a product of both non-intellective and intellective constructs.

CHAPTER TWO

METHODS AND PROCEDURES

I. Population

The methods and procedures of a research design provide, understandably, the instrumental means for collecting data. In this study, a sample of 30 retarded boys and 30 retarded girls as well as 30 normal boys and 30 normal girls were studied with a total population of 120 subjects. The retardates were students of the Cardinal Cushing School and Training Center, Hanover, Massachusetts. The normal sample was drawn from the student body of the Hanover public school system, Hanover, Massachusetts. The IQ range for the retardates was from 50 to 86; for the normals the IQ range was from 93 to 138. Mean IQ for the retarded subjects was 64; mean IQ for the normals was 111. Mean IQ for retarded boys was 62 and mean IQ for retarded girls was 66. Mean IQ for normal boys was 110 and mean IQ for normal girls was 113. The age range for the retardates was from 8 years 6 months to 17 years 4 months. For the normals, the ages ranged from 8 years 8 months to 13 years 4 months. The academic levels of the retardates began with Readiness I and went through the Pre-Vocational level. The normals ranged from the third through the seventh grades.

The population was chosen according to criteria which eliminated any subject who presented motor, sensory or emotional disturbances. Within the retardates, two subjects were disqualified because of emotional problems. The normal subjects were recruited through the use of a letter and permission forms (see Appendix C) addressed to the parents and distributed through four elementary public schools and five academic grades. Two normal students were disqualified because of dyslexia. In addition to the above criteria, subjects were disqualified because of their behavior during the testing sessions which, in the judgment of the examiner, rendered their responses invalid or not scorable. Accordingly, seventeen retarded subjects were disqualified because they were unable to understand the experimental task and respond appropriately. Eight retarded subjects failed to give scorable responses on the Rohde Sentence Completion Test (RSCT). Within the normals, one student was disqualified because of non-scorable responses on the RSCT and two students were disqualified because of a high level of anxiety during the testing session. A total of 28 subjects were, therefore, disqualified.

Measurement of intelligence at the Cardinal Cushing School and Training Center was determined through individual testing by a certified psychometrist. The Stanford-Binet Intelligence Test, Form L-M, and the Wechsler Intelligence Scale for Children were used. The IQ evaluation of the public school population was determined by group testing using the Primary Mental Abilities Test, Wechsler Intelligence Scale for Children and the Lorge-Thorndike Intelligence Test.

II. Methods and Procedures

Testing procedure followed by the examiner was as follows:

1. Pre-training period for experimental task
2. Experimental task
3. Rohde Sentence Completion Test
4. Learning task

Two tests of dependency were administered individually to each subject: (1) the experimental task and (2) the Rohde Sentence Completion Test. The experimental task was a measure of overt or instrumental dependency (ID). A complete description of this nonverbal measurement apparatus can be found in Green (1966). A brief explanation follows. Various stimuli differing in pulses per second were presented electronically. These stimuli ranged from 2 pulses per second (pps) to 10 pps. Each test stimulus was presented for 1.5 seconds. During the pre-training period, the subject was told that he would be hearing many different sounds during the experiment. Anchor values 2 pps and 10 pps were presented as the slowest and the fastest sounds he would hear. The experimental task asked the subject to decide whether the sound presented to him was more like the slowest sound or more like the fastest sound. Values 5 pps, 6 pps and 7 pps were considered ind (just noticeably different) values.

The subject's test equipment provided him with "answer" switches and "anchor" switches. The "answer" switches were differentiated by the labels slow and fast. The labels for the slow answer switch and the slow anchor switch were color coded red; labels for the fast answer switch and fast anchor switch were color coded green. The examiner described the "anchor" switches as sources of help which could be used by the subject to hear, as often as he needed, the slowest and the fastest sounds. Each stimulus sound was to be judged against these two anchor values. A minimum of 18 values (two blocks of nine different values) was presented to each subject during the pre-training session. Simultaneous recording of each test stimulus, as it was presented by the examiner, and use of switches by

each subject was recorded on a paperchart driven by a Multiple Event Pen Recorder (Esterline-Angus). The recorder, also, presented the number of differential testing responses made by each subject with the slow and fast anchor.

During the presentation of the experimental task, a total of 90 values (ten blocks of trials with nine different pulses in each block) were presented to each subject. Both normals and retardates were divided into two subgroups. One subgroup in each classification received social reinforcement (SR) on the experimental task. The other subgroup did not receive reinforcement (NR). Each time an anchor switch was used and a correct decision was made, appropriate reinforcement was given by the examiner if the subject was in the social reinforcement group. A schedule of five different rewarding responses by the examiner developed a continuum of increased praise, as follows:

1. "That's right."
2. "Right. That's good."
3. "Correct. You really understand this."
4. "Okay. You're doing very well."
5. "That's right, name of subject. You're really trying."

If anchors were used by the subject with ind values, reinforcement was given. Reinforcement was not included during the pre-training session. Total anchor use for 90 stimuli was defined as an ID (instrumental dependency) score.

The Rohde Sentence Completion Test (RSCT) (Rohde, 1957) was used to determine the extent of covert or emotional dependency. The literature has advised on investigating both instrumental dependency (ID) and emotional dependency (ED) (Cairns, 1961; Green, 1966). Each sentence stem in the RSCT was read aloud by the examiner to each subject because of limited reading skills among the retardates. Instructions given to each subject were as follows: "I am going to read you some sentences and I would like you to finish them as quickly as possible. Just say whatever comes into your mind. For example, I will say to you: 'The door.....' What will you say? (Record answer verbatim.) That's fine. Now, I will say: 'My class.....' (Answer) That's the way. And if I say: 'I wonder.....' (Answer) That was very good. You really know how to do this. I think we're ready to begin. Remember, just say whatever comes into your mind and I will write it down."

The RSCT (Appendix D) is based on Murray's (1938) theory of personality and his conceptual scheme of a need system. Murray (1938, p. 124) has conceptualized a need (n) as a hypothetical construct "which stands for a force ...which organizes (responses) in such a way as to transform in a certain direction an existing, unsatisfying

situation. A need is sometimes provoked directly by internal processes...but, more frequently, by the occurrence of one of a few commonly effective press." According to Murray, the indices of overt or manifest needs are distinguishable and can be described as "social reaction systems" (1938), p. 150). Definitions of the five needs as defined by Murray and scored on the RSCT follow. The n Deference is manifested through admiration and support of another perceived as a superior. The n Succorance is defined as seeking aid, protection or sympathy. It is a cry for help, a plea for mercy and reveals a dependent individual. The n Abasement refers to self-depreciation, surrender, confession and atonement. Masochism is a component of this need. The n Autonomy appears as a critic of authority, as defiance and a strong move toward independent action. The n Dominance has to do with a desire to influence of control others, to persuade, prohibit or dictate.

Responses on the RSCT were scored by the principal investigator (a psychologist) and a trained scorer. Reduction of funds, as requested in the original proposal, made it necessary to seek the services of a trained scorer in place of another psychologist, as planned initially. Zuckerman's (1961b) manual and scorable responses were developed on a sample of student nurses, ages 19-20 years. For this study, additions to these scorable responses were made by the judges. These additions were considered justified because of the younger age range of both normals and retardates as well as the IQ range of the retardates. The reduction of grant funds, also, made it necessary for the principal investigator to test all subjects. It was not economically feasible to include a male examiner, as had been proposed.

The final task presented to all subjects was a learning task based on the concept of opposition (Milgram & Furth, 1963). Used in the task were eight wooden squares ranging in diameter from .5 inches to 2.25 inches. A different combination of four wooden squares was presented to each subject for each trial. These combinations had been predetermined through the Random Numbers Table (Myers, 1966). The subject was told that the examiner would point to one square and the subject was to follow by pointing to whichever square he decided upon. It was explained that no reason would be given to the subject which would clarify the examiner's choice. It was further explained that there was a right and a wrong answer to the subject's selection of a square. The examiner would tell the subject if his response was right or wrong but no additional explanation would be given. It was the subject's task to learn that when the examiner pointed to the largest square in the display, the subject should point to the smallest square in the display. The concept of opposition obtained when the

examiner's choice was reversed. A maximum of 36 trials was presented to each subject. Criterion was reached with a succession of six consecutive correct responses by the subject.

CHAPTER THREE

PRESENTATIONS OF RESULTS

The results of this study are reported in response to the objectives as stated in the original statement of purpose (p. 1). Emotional dependency (ED) was defined in terms of five needs: n Deference, n Succorance, n Abasement, n Autonomy, and n Dominance. An ED score was computed from raw scores on the Rohde Sentence Completion Test (RSCT) by taking the ratio of n Deference plus n Succorance plus n Abasement to the total sum of all five scores (Zuckerman *et al*, 1961). Analysis of variance showed no significant differences between retardates and normals on ED scores. There were no significant differences on ED scores within groups. Sex differences between groups resulted in no significant differences on ED and the need components of ED.

An analysis of variance was performed on ID scores. ID scores referred to frequency of anchor use by subjects. Significant differences between normals and retardates on ID scores were indicated, with an F ratio of 9.99 ($p < .001$). Figure 1 (Appendix B) represents a distribution of mean anchor use for each stimulus for all retardates and all normals. There is a distinct separation between the groups on anchor use with the bell shape more pronounced for normals. Figure 2 shows a distribution of mean anchor use (ID scores) within groups. Sex differential within retardates was clearly evident. Male retardates used anchors more heavily than females. There was minimum difference between males and females within normals. Within the retardates, males showed a mean anchor use of 73.86; females showed a mean anchor use of 48.63. The variability of mean anchor use by all retardates to each of the stimuli of experimental task was relatively constant, whereas the variability for subjects of the normal group was greatest for the middle or more difficult values. The normals showed homogeneous responses on extreme values which indicated clear identity of these stimuli. (See Figure 1, Appendix B). The mean anchor use ($\bar{X} = .68$) across 90 trials for the retardates was significantly higher than the mean anchor use ($\bar{X} = .26$) for the normals with an F value of 23.75, which indicates significance well beyond $p < .001$. However, anchor use by subjects of both groups was not extensive, as indicated by the above mean values. Most frequent anchor use occurred on middle values with a tapering off at end values. Because of this fact, a

response to Objective 4 cannot be made. Clear identity of stimuli by normals, as mentioned above, is suggested as an indicator of accuracy. Given the fact that mean anchor use by retardates to each of the stimuli was noticeably stable, it would seem that retardates were less accurate than normals. To the extent of this inaccuracy, there would seem to be an indirect relationship between instrumental dependency and accuracy. However, since this dependency is not significant within groups, a direct relationship between instrumental dependency and accuracy within groups cannot be examined.

Social reinforcement was not significant for retardates or normals as shown in Figure 3 (Appendix B). Mean anchor use within the normals was higher for the socially reinforced subjects. Within the retardates, there was an overlap of distribution. Although significant differences were not present between groups, it should be noted that the distribution pattern for the retardates as shown in Figure 3 differs from the shape of their curve as plotted in Figure 1 (Appendix B). The bell shape, however, still obtains for both socially reinforced and non-reinforced normals.

An analysis of fast decisions on values 1 pps, 2 pps, and 3 pps as opposed to 7 pps, 8pps, and 9 pps, respectively, showed noticeable but not dramatic differences between retardates and normals, with no distinguishing differences between males and females. (See Figures 4, 5, and 6.) It can be conjectured that these relative inaccuracies by the retardates may be related to perception and retardation pathology.

On intercorrelational matrices with variables CA, IQ, ID, ED and Opposition Task for all groups or sub-groups, correlation coefficients were generally $r.41$ to $r.52$ for IQ and Opposition Task as well as for IQ and ID. These correlations held up under a variety of sub-analyses in which retardates versus normals and/or males versus females were examined. No correlations were established between ED, ID and Opposition Task.

Although ED scores were not significant between normals and retardates, an analysis of variance computed on the five needs (incorporated within the ED score) indicated significant differences between groups, with higher ED scores for the retardates. A F ratio of 8.04 established a Success as significant well beyond $p < .001$. The n Deference and n Abasement, with a F ratio of 2.79 and 2.77, respectively, were significant with $p < .05$. The n Dominance and n Autonomy were not significant.

Two judges of the RSCT rated 65 items per subject across 120 subjects, a total of 7800 items. Of the total ratings, 99.6% of the items were agreed upon and 0.4% were disagreed upon. This interjudge agreement is comparable to Green's (1966) three judges who showed a unanimous agreement on 78% of the items, 21% unanimity by two of the three judges and 1% total disagreement. Their summed unanimous agreements reached 99% which is compatible with this study's interjudge agreements.

An investigation of sex differences within and between groups revealed negligible differences on all needs. However, mean differences between groups on n Succorance were the strongest.

The Opposition Task as used by Milgram and Furth (1963) was a discovery task which has been used, experimentally, as a measure of problem solving. The concept of opposition, as employed frequently in our language (i.e., big-little, hot-cold) has been shown to be a familiar concept by the age of six years. The results of this dependency study showed that retarded females had greater difficulty with the Opposition Task than the other sub-groups. Criterion was reached by six consecutive correct choices out of a maximum of 36 trials. Fifty percent or 15 retarded females out of 30 did not reach criterion on the Opposition Task. The range of trials on the task was from 6 to 33 trials. Within the retarded males, 9 males did not reach criterion and the range of trials was from 7 to 31 trials. Within the normal sub-groups, 2 females did not reach criterion and the range of trials was from 6 to 25 trials; all normal males reached criterion and the range of trials was from 6 to 27 trials.

Summarizing the findings, analysis of variance has revealed significant differences between retardates and normals on ID scores determined from the experimental task. Sex differences were not significant on ID scores. There were no significant differences between or within groups on ED scores. Intercorrelational matrices indicated significant correlations between IQ and ID as well as between IQ and Opposition Task. There were no significant differences between: IQ and CA; IQ and ED; CA and ED; CA and ID; CA and Opposition Task; ID and Opposition Task; ED and Opposition Task. Performance on the Opposition Task showed significant differences between male and female retardates; no significant differences obtained between normal males and females.

CHAPTER FOUR

CONCLUSIONS

I. Discussion of Results

The significance and implications of this study will be discussed in terms of:

1. The basic task.
2. Psychoeducational issues.
3. Theoretical implications.
4. Operational implications.

Early formulations of mental retardation as a unitary concept are gradually yielding to an expansion of perspectives and hypotheses within and between disciplines. The ubiquitous IQ has been challenged and, slowly, investigations have been designed to explore issues concerned with learning, dynamics of personality and their relationship. Although learning-related constructs such as rigidity (Kounin, 1941a, 1941b), motivation (Zigler, 1966), anxiety (Lipman, 1960) and attention (Crosby and Blatt, 1968) have been investigated within the framework of personality theory, a comprehensive pre- and post-review of the literature has failed to reveal experimental studies on dependency behavior of retardates. Based on this knowledge, allowing for unpublished or uncovered research, this dependency investigation emerges as a pioneer study in the field of mental retardation. The absence of research in this critical area stimulates many conjectures. Diverse speculations can be set forth. It is suggested that stereotypic judgments (by both lay and professionals) about mental retardation and the potential of mentally retarded persons have mitigated against dependency research. Such stereotypic judgments are challenged by this study. A careful examination of the experimental task supports this challenge.

A. The Basic Task

The basic experimental task presented a complex psychophysical task which demanded thoughtful, sustained attention and accuracy of response. The results have demonstrated that the retardates were able to meet the demands of the task. This is clearly represented in Figure 1 (Appendix B) which shows distribution of retardates' responses approximating the normal curve. These responses drew from several

dimensions of cognition and personality. It seems reasonable to state that there was a qualitative as well as quantitative involvement with:

1. Comprehension of instruction.
2. Attention to task.
3. Dependency on anchors.
4. Evaluation of stimulus in relation to anchor values.
5. Social reinforcement.
6. Integration of task components leading to a decision.

It can be conjectured that lay persons as well as professionals would have expressed serious doubts about the retardates' ability to integrate the above demands and respond appropriately. Indeed, in the early formulation of this study, the principal experimenter was confronted with professional opinions which doubted the feasibility of the experimental task within a mentally retarded population. Of paramount significance, therefore, is the fact that the retardates were capable not only of comprehending the experimental task and responding appropriately, but also of approximating normal distribution.

B. Psychoeducational Issues

A consideration of psychoeducational issues requires a restatement of dependency behavior. If we accept Beller's (1955) components of a general dependency drive (i.e., seeking help, physical contact, proximity, etc.), self-initiated explorations are delimited by dependency. It is suggested, therefore, that dependency behavior produces antecedents which constrict the range and depth of learning experiences. The data has reported anchor use for retardates as being significantly higher than for normals. The data has also reported less variability on use of anchors within retardates. In effect, retardates used the anchors with more equal frequency across all stimuli. An inference can be made that the need to be re-instructed or reassured by anchor values prior to a decision was influencing their learning pattern. While minimum variability and high anchor use does not suggest an obvious theoretical hypothesis concerning dependency and learning, it does advance a relationship which merits further investigation. Psychoeducational issues implicit within this study also underscore the valuable contributions which could accrue from psychological research in the area of dependency behavior within retardates. Citations of studies on dependency behavior in normal children have been amply presented in this study's review of literature. The value of early as well as ongoing research by psychologists in the area of development psychology is well established. The expansion of this professional expertise into

the area of mental retardation would seem to be long overdue. Evaluation of learning potential and programs for remediation must be concerned with non-intellective as well as intellective variables. On the basis of this study's findings, it is suggested that dependency (a non-intellective construct) should be examined as a differentiating contributor to the total assessment protocol of a retarded person.

C. Theoretical Implications

Theoretical implications which are suggested by the findings cluster heavily around the disparity which exists between the significance of the two dependency scores. Overt or instrumental dependency as reported through ID scores reached significance between retardates and normals ($p < .001$) but ED scores between both groups was not significant. The dependency behavior of the retardates and normals, therefore, reveals significant differences between overt, seeking of help and covert, affective needs. The observable behavior of each group is differentiated by the amount of help needed to accomplish a task. Although affective behavior between groups is not significantly different, the weight given each need by retardates within the ED score reveals a qualifying characteristic of this group. An examination of the five needs which contributed to the ED scores established n Succorance as the most critical need for the retardates, reaching a level of significance well beyond $p < .001$. According to Murray (1938, p. 182), the n Succorance "is the tendency to cry, plead, or ask for nourishment, love, protection or aid. . . . The Succorant drive seeks a nurturant O (Object)." When we consider the age range of the retardates--8 years 6 months to 17 years 4 months--a prolonged need for succorance seems to be evident within the retardates. The intensity of this need is reflected in the high level of significance reached by n Succorance. It is suggested, therefore, that the dependency needs of the retardates, as revealed through the components of the ED scores, reflected a stretching of dependency behavior along an expanded time-continuum. The critical significance of n Deference and n Abasement can be noted as a reflection of the retardates' self-concept.

Increased mean anchor use for retardates and, consequently, higher ID scores, suggests that retardates needed continuous support within a decision-making situation. The positive impact of such support, as needed, is clearly illustrated in Figure 1 (Appendix B) which presents distribution of anchor use approximating the shape of a normal curve. It can be conjectured that a reduction of inhibition of dependency resulted in higher anchor use which, in turn, resulted

in close approximation of normal distribution. Conversely, it can be suggested that a lack of supportive assistance, as needed, could have resulted in a curve less comparable to normal distribution. Havens (1967) has implied that the first step to independence is a shift to dependency.

The Opposition Task, discussed above, assesses the ability of the subject to make use of a familiar concept in an unfamiliar situation. Within the experimental design, the verbal as well as auditory fast-slow dichotomy was well examined in a pre-training session. It could, therefore, be assumed that the concept of opposition was well established within the retarded population. Proceeding from this assumption, the opposition task was particularly appropriate to a dependency study because it drew upon an established skill. Independent behavior, in many instances, does not demand the learning of new skills but rather a redeployment of learned behavior. Analysis of data has shown a significant correlation between IQ and Opposition Task. The formulation of the IQ is considered a representative index of level of adaptive behavior as well as level of cognitive abilities. If this formulation is accepted, we can conjecture that the significant correlation of IQ and Opposition Task reflects not only a correlation of intellectual ability with Opposition Task but, also, a correlation of adaptive behavior with Opposition Task. It can, therefore, be postulated that the learned concept of opposition was not appropriately adapted to the new problem-solving task. If this conjecture is pursued within the framework of dependency behavior, it can be suggested that planned, supportive exercises and programs could activate and direct learned behavior within new, decision-making experiential situations.

The main thrust of this study has been an examination of relationship between dependency and learning. The academic accumulation of diversified concepts were well within the grasp of the educable mental retardates as represented in the population of this study. However, there appeared to be a breakdown between academic achievement and practical implementation. It would seem that concepts learned in the classroom have failed to supply successful solutions to actual problems. Dependency behavior is nurtured by these failures. There is, therefore, a paramount need to transform academically learned concepts within life-situations. It is theorized, therefore, that the relationship between learning and dependency can be represented, in part, by a breakdown in the transformation of learned skills into viable forms of adaptive behavior, namely, independent, decision-making behavior. It can, also, be suggested that

dependency behavior limits exposure to a wide variety of learning experiences. Reduced opportunities to confront diverse challenges restrict independent explorations. The circularity of this phenomenon is self-evident. Dependency behavior becomes a self-fulfilling prophecy.

An examination of the significant correlation of IQ and ID (Instrumental Dependency) extends the discussion of relationship between learning and dependency. Anchor use, as the criterion for ID, was heavier for the retardates (Figure 1, Appendix B). Given available access to a re-affirmation-retrieval system (anchor switches), retardates were able to respond to the experimental task in a manner which was comparable to the response pattern of the normals (Figure 1, Appendix B). Within such an ongoing learning-testing paradigm, given a direct answer for each question, retardates were able to modify their dependent behavior and resolve a decision-making problem appropriately. Within the context of the experimental task, with the distinct advantage of anchor switches, retardates were able to successfully transform a learned concept (opposition) into appropriate behavior within an unfamiliar situation. This success would suggest that dependency behavior is amenable to change when decisions are allowed to evolve through trials of uncertainty, paced according to individual needs.

D. Operational Implications

The dynamics of this dependency study will be discussed within the context of derived operational implications. The basic task, as discussed above, together with psychoeducational issues and theoretical implications, suggest a procedural outline for the presentation of decision-making situations within a retarded population. The experimental task was a complex psychophysical one which has been used with an adult blind population (Green, 1966). The task was not altered in its presentation to a young, retarded population. Appropriate, meaningful responses to the task by the retardates have been verified by graphs which appear in Appendices. Comprehension of task, therefore, can be reasonably assured. The experimental task has, also, been suggested as being analogous to a teacher-student dialogue. Within such a projected frame of reference, the stimulus presented became a teacher's question and the answer switch represented the student's response. Extending this analogy, anchor switches provided each student with opportunities to test himself, to seek further help from teacher, and to proceed at his own pace, without pressure, until he felt prepared to make a response. A consideration of the statistical analysis of the five need components in the ED score highlighted the retardates need to seek help. It also presented the retardates within this study as complying with

authority (in Deference) and as being critical of self (in Abasement). The availability of anchors, to be used freely by the student, provided him with opportunities for re-examination and verification. Given such a model, the retardates resolved the challenge of the experimental task. Although mean anchor use ($\bar{X} = .68$) by retardates was significantly higher than mean anchor use ($\bar{X} = .26$) by normals, it is obvious that anchor use was not heavy for retardates. The experimental model, therefore, presented an opportunity for retardates to enjoy risk-taking behavior within a supportive, non-threatening situation. Fear of failure or humiliation was reduced to a minimum. Control of the situation was offered to each subject. It is suggested, therefore, that analogous situations derived from the above operational implications should make available to the student a supportive milieu as well as opportunities for risk-taking, testing, and control.

The significance and implications of this study have been discussed in terms of the basic task, namely, an experimental investigation of dependency in retardates as well as psychoeducational issues relating intellectual and non-intellectual dimensions. Theoretical implications were concerned with disparity between instrumental and emotional dependency, greater instrumental dependency within retardates and correlation of the learning task with IQ. Operational implications have suggested classroom paradigms vis-à-vis teacher-student dialogues.

Inferences which have been drawn from this study should be interpreted within the research design of this study. However, the success which the retardates displayed with the experimental task suggests an adaptive operational model.

CHAPTER FIVE

RECOMMENDATIONS

A study of the complex, under-investigated construct of dependency in retardates has generated diversified implications which lend themselves to continued research. It is recommended, therefore, that experimental research be designed to further explore the relationship between dependency behavior as it exists within a retarded population. It is suggested that such investigations, primarily, examine the constraints which dependency impose upon the developing young retardate. The overall developmental profile of a retarded child should be examined within such a framework. Inherent in such a study is a probe for relationship between dependency behavior and emergence of skills (i.e., motor, perceptual, social, cognitive, emotional). An assessment protocol which incorporates intellectual and non-intellectual dimensions presents a more valid discussion of the client.

Inhibition of dependency behavior within retardates recommends itself for a specific focus. Denial of a need to seek help can lead to failure, frustration or humiliation. Although inhibition of dependency presents a temporary defense for the retardate, ultimately failure and inappropriate behavior can overwhelm him. If we accept Havens' (1967) hypothesis that a shift to dependency provides the initial step to independence, inhibition of dependency becomes a target for intervention and remediation.

It is recommended, therefore, that future research address itself to the hypothesis that dependency behavior in retardates is not a resistant, unchanging characteristic. It is further recommended that psychologists consider a retarded population as one which is responsive to and highly appropriate for such investigations. The side-long glances which retardates have received from psychologists should now be replaced with in-depth psychological studies and a re-arrangement of professional roles.

The educator is challenged to consider his role in the psychological development of the retarded child even as the psychologist is challenged to lend his expertise to the education of such a child. The estrangement of

these two disciplines can be fruitfully resolved in projected research designs which will be concerned with the impact of dependency on learning. Specifically, it is recommended that an analogy be drawn from the experimental task and that this analogy shall be defined within a classroom situation. A teacher-student model which encourages a reduction of inhibition of dependency could be tested as a generator of independence. Such a model should encourage questions and verbalization by the student and should place controls on the verbal behavior of the teacher. Within such a model, a supportive milieu is suggested with flexible options available to the student for testing and control of the problem.

It is also recommended that attention be given to the needs and education of parents. Child-rearing practices with handicapped children have been described in the review of literature and they present a record of confusion, helplessness and dismay. Parents are often desperate in their pleas for guidance. The prolonged immaturity of the retarded child can, in some cases, extend his dependent needs for a lifetime. Research is, therefore, suggested which would provide education and guidelines for parents together with their handicapped children within a controlled laboratory setting. A "how-to-do-it" and "how-to-say-it" approach is practical and immediate and lends itself to instant feedback. Such a design, directed by an interdisciplinary team of professionals, could initiate and encourage growth of a healthy, dynamic relationship between mother and child.

It is also recommended that future studies of covert dependency behavior within retardates which use a sentence completion test as a measuring instrument develop a scoring manual based on responses of a retarded population in an age range appropriate to their study.

In summary, it is recommended that the area of dependency behavior within retardates be given high priority for future research studies. The tacit acknowledgment of such behavior and the astounding absence of experimental studies on this issue should command the attention of future researchers. If community living and not institutionalization is the future setting for retardates, then educators, psychologists, sociologists, physicians--indeed, all allied professions--must provide a cohesive force which will support and direct independent living for the retarded. "The need is for studies of how changes can take place, not if they can take place" (Garfunkel, 1964, p. 57)

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Appendix A
Review of Related Literature

Appendix A

Review of Related Literature

The direction of thought and research in mental retardation has been strongly guided by a unitary concept of mental retardation. Reformulation of opinions and practices was a gradual one. Nevertheless, the need for such thinking and change was espoused by a few professionals in the early years. Sporadically, attention was directed toward the interrelationship of intellectual and non-intellectual deficits in the retardate. McCulloch (1947) suggested a modification of two aspects of the traditional concept of mental deficiency. He referred to the contentions that retarded intelligence was the cause of mental deficiency and that it was incurable. He argued that for individuals classified as high grade retardates such concepts were inconsistent. Variability between social competence and intelligence was presented as support for his argument. In 1954 (Hegge), a pioneering symposium attempted to reformulate directions and emphases for the field. Personality problems, limited and damaging experiences as well as short-sighted educational programs were identified as neglected but vital areas for consideration. Deficiency in cognitive functions only was more thoroughly questioned as a blanket explanation for the behavior of the mentally deficient. Kanner (1952) wrote about the implications of emotional disturbance with intellectual functioning. Burton (1954) spoke to this point with force and foresight. He urged professionals in the field to investigate the dynamics of personality. The conception of retardation as an intellectual problem, exclusively, eliminated possibilities of improvement through psychotherapy.

Gladwin (1959) challenged the use of the IQ as a standard for a normal, happy and productive life. The contributions of IQ studies to a better understanding of mental subnormality were questioned. Gladwin suggested that the extensive use of intelligence tests as a research tool was responsible, in large measure, for inadequate research in the field. Studies began to emerge which now directed their attention to the dynamics of learning. Different aspects of the learning process were subjected to examination for implications relevant to mental retardation. McPherson's (1948) early review of experimental studies in learning covered a total of fourteen studies from 1904 to 1945. This sparsity of studies and their limited contributions forced McPherson to conclude that meaningful investigations of the behavior of the subnormal were inadequate and haphazard. Since 1955, studies of learning among the retarded have shown a marked increase.

Denny's (1964) comprehensive review of learning presented a critical survey of experiments in learning. He suggested that, in some instances, the retardate's difficulties in learning could be resolved through special training and appropriate motivational procedures. Garfunkel (1964) has argued that "the need is for studies of how changes can take place, not if they can take place" (1964, p. 52).

Although experimental studies on dependency are noticeably absent from the literature, related reports on risk-taking describe significant changes in programs for the retarded. Of pioneer stature is the normalization principle which now guides the legislation and programs in Norway, Sweden and Denmark (Nirje, 1969). The underlying philosophy of "normalization" contributes the most direct, the most vigorous and viable challenges to dependency behavior in the current scene on mental retardation. The "dignity of risk" as conceptualized by Perske (1972) demands a dramatic re-formulation of professional and lay planning for the retarded. Bold, expansive programs, initiated with respect to "a reasonable amount of risk" were visible to Perske (1972) during his recent trip to Sweden and Denmark. With deliberate, developmental programming, retarded persons are being exposed to a variety of risk-taking experiences. Direction and support encourage dependent retarded persons to confront normal risk in community living, in industry and in heterosexual relationships. Within such a climate, the intransigent attitude toward the competence and adaptive behavior of the retarded can be modified. Conversely, mentally retarded young adults with IQs ranging from 35-70, encouraged by such a milieu, have proved themselves capable of making appropriate, independent decisions about leisure-time programs, student clubs, vacation trips and labor union participation (Wolfensberger, 1969).

According to Robinson and Robinson (1965), a comprehensive understanding of the potentials and learning deficits of the retardates has not been crystallized. They set forth the opinion that learning theorists have been more interested in learning processes than in the learner. Such research, they posited, may yield information leading to general laws of behavior but has done little to explain individual differences within a retarded population or between normal and retarded populations. Nevertheless, they have concluded that learning studies with retardates have confirmed the general patterns of learning which obtain from the gathered evidence. The phenomenon of attention and its educational implications has been studied within normal and retarded populations. Crosby and Blatt (1968) contended that past studies have not adequately investigated the alleged attentional deficit in retardates. Their review of studies led them to conclude that reported

results were inconsistent. The authors stated the need for more well designed studies to probe the hypothesis that retarded children are more susceptible to distraction than normals.

The history of any discipline will reveal periods of heightened interest in particular areas. Studies already reviewed have shown that emphasis has been given to the cognitive functioning of the retardate. Research in retardation has developed slowly in its investigation of non-intellective correlates of learning. Lewin's (1936) field theory was an early recognition of the relationship between inner-outer needs. Differences between retardates and normals were conceptualized in terms of differentiation and rigidity. Topographically, differentiation was represented as cell regions within two overall, general regions. An increase in number of cell regions illustrated differentiation. Maturation, normally, resulted in new experiences, needs and goals. These new experiences and needs were represented by an increase in cell regions. Rigidity, as used by Lewin, did not refer to stubbornness or sameness of behavior in a variety of situations. Rather, rigidity was characterized by degree of fluidity. The ability of an individual to begin a new activity easily revealed ongoing rearrangements of inner systems. Lewin further postulated that the pattern of life experiences and perception of the psychological situation also contributed to rigid behavior. Continued experiences with failure could lead to a life-style characterized by rigid behavior.

Building on Lewin's theory, Kounin (1941a, 1941b) formulated the rigidity hypothesis as an explanation of the behavior of the retarded. Retardates were unable to present efficient performance on tasks which required interaction between conceptualized cell regions.

Zigler (1966) proposed the motivational hypothesis as an explanation of differences in rigidity behavior. However, Zigler has not suggested some single motivational factor underlying the retardate's behavior. Complexity of the retarded individual has been recognized. Underlying the retardate's behavior was a wide spectrum of motivational factors. According to Zigler, behavioral differences of normals and familial retardates of the same MA was more a function of social deprivation than cognitive rigidity.

Another dimension of special importance as it relates to learning is anxiety. However, studies investigating this area have failed to agree on the force of anxiety on retardates. Early clinical studies (Feldman, 1946; Beier et al., 1951; DeMartino, 1954; Stacey, 1955) agreed that increased anxiety was prominent in retardates. Lipman (1960) and Kitano (1960) found no relation between measured intelligence and scores on the Children's Form of

the Manifest Anxiety Scale (CMAS). In a study of concept formation, however, Lipman and Griffith (1960) found a high negative correlation between CMAS scores and concept formation scores. Malpass et al. (1960) found that institutionalized retarded children were found to be more anxious than non-institutionalized retarded children. Both groups were found to be more anxious than normals. Cochran and Cleland's study (1963) supported their presented hypothesis. Retarded fourth grade students, matched academically with normals, showed more manifest anxiety.

Within the family unit, there has been investigative focus on support vs. rejection; normal sibling vs. retardate; acceptance vs. denial (Robinson and Robinson, 1965). The response of the family to a retarded child has been examined by many disciplines (Kanner, 1953; Zuk, 1959; Cohen, 1962; Olshansky, 1962). A very recent survey of child-rearing practices among parents of handicapped children was reported by Barsch (1968). The design followed that used by Sears et al. (1957) with mothers of non-handicapped kindergartners. Mongoloid children comprised one of the five populations investigated by Barsch. The other groups in the study were: organic or brain-injured, blind, cerebral palsy and deaf. Reduced intellectual functioning within any one of the above groups was recognized. All children lived at home with their families. Of the 177 children involved in the study, 65% were classified as mentally retarded. Forty-five were diagnosed as educable mentally retarded and 70 as severely retarded. Barsch did not find the parents of these handicapped children to be characterized as guilt-ridden, anxiety-laden, overprotective or rejecting. Such findings were felt to be related to personality factors of the individual parents. Sarason's (1969) findings on parental attitudes have indicated the need to recognize an important influencing factor, namely, whether or not the retarded child was at home or institutionalized. In Sarason's study, institutionalized retardates were severely or profoundly retarded. The self-image of the parents of these children was a poor one. They saw themselves as overprotective or neglectful, guilt-ridden, ineffectual and expressed self-doubt. Denial and repression defended the parents against the trauma of retardation. The retardates who were kept at home were moderately retarded and younger than the institutionalized group. The parents of these children showed a more positive attitude toward them.

Rehabilitation of the handicapped, historically, has demanded the attention of many disciplines. The need for help and the response to this need has been well recorded. Itard's (1962) efforts with Victor stand as a hallmark of creative and sound educational and rehabilitative techniques for the retarded. Complexities of our technological

society, however, have made increasing demands on its citizens. Accordingly, competent social behavior of the handicapped must meet increasingly rigorous standards. In an effort to diminish the potential handicap of dependency within the retardate, emphasis has been given to vocational guidance and training. Economic independence for the retardate has become equated with high level competence. Many studies have examined the problem of the retardate in the open labor market. Emphasis of interest and conclusions may vary from study to study. However, the determination of a productive work life for the retardate is established, categorically, as an area demanding high priority in educational programs (Borreca et al, 1950; DiMichael, 1964; Parnicky, 1964; Neuhaus, 1965).

The forceful relationship between intellectual and non-intellectual variables in learning among retardates has been reviewed, briefly, above. Since dependency is posited as a non-intellectual correlate of learning, the above review was considered relevant to the proposed research problem. The absence of experimental research in dependency becomes even more puzzling in light of the attention given to other non-intellectual variables. The thought suggests itself that dependency in retardates may have been perceived as an ambiguous, invariant attribute. The thrust of this study, however, presents dependency as an attribute relevant to learning and receptive to change. The area of retardation has long suffered from problems of taxonomy and definition. It has been suggested that "universal agreement on the definition of terms makes for contentment rather than for scientific progress" (Mostofsky, 1968, p. 5). It is suggested that a search into the construct of dependency with thoughtful consideration for derived implications may help to expand the life-boundaries of a retarded child.

Appendix B
Figures

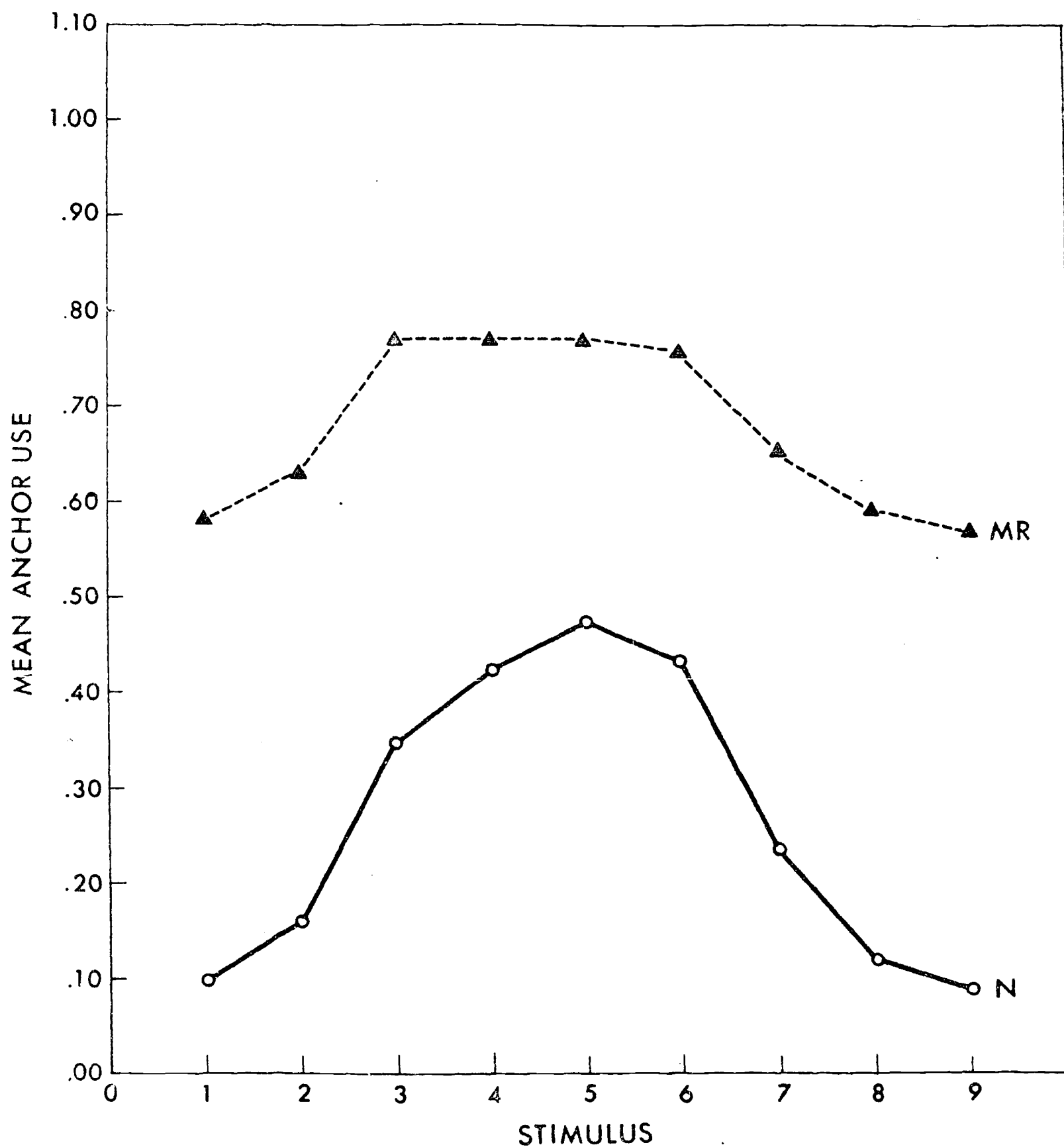


Figure 1.--Distribution of mean anchor use (ID score) for retardates (MR) and normals (N) at each stimulus value.

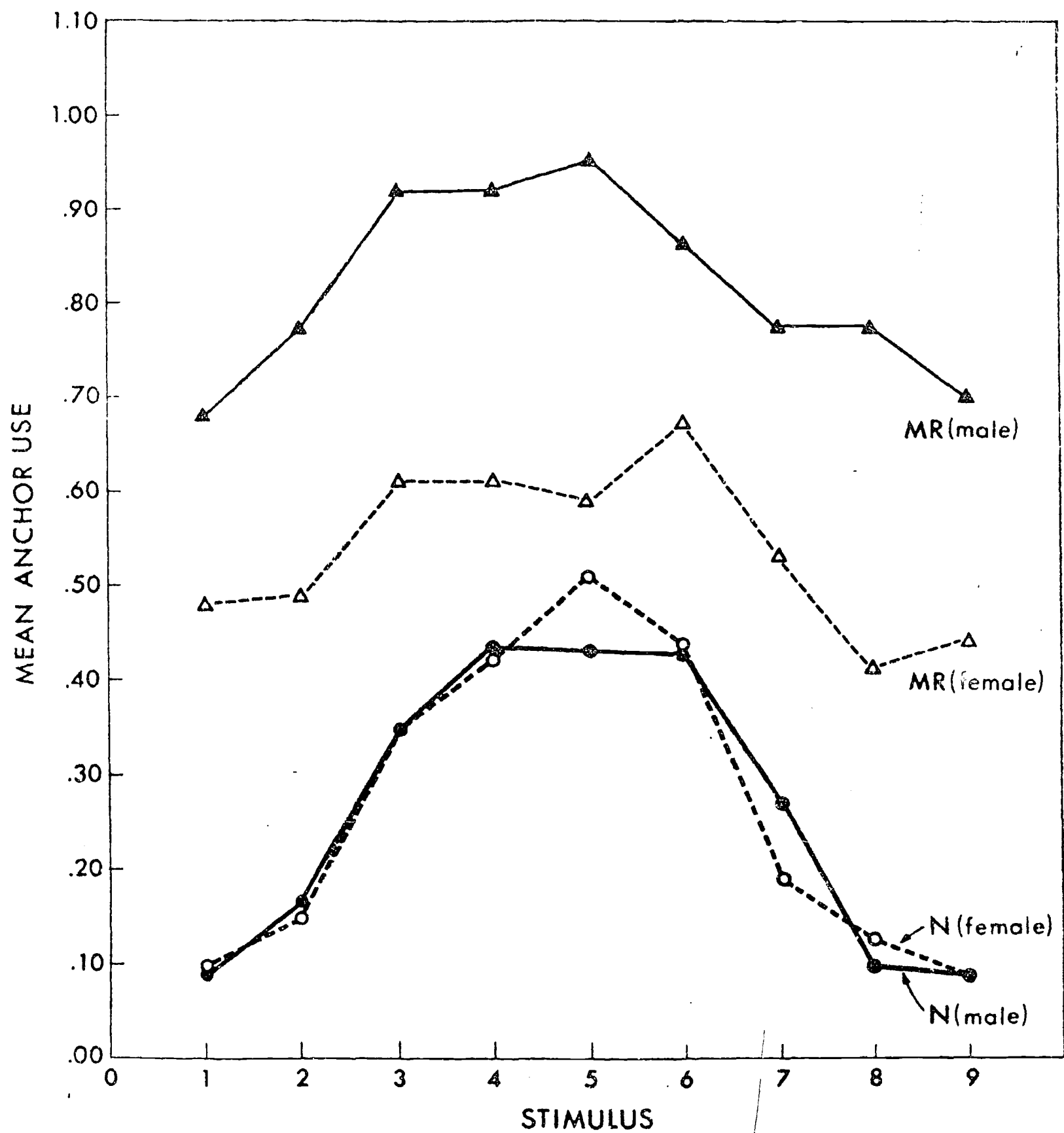


Figure 2.--Distribution of mean anchor use (ID score) for male and female retardates (MR) and male and female normals (N) at each stimulus value.

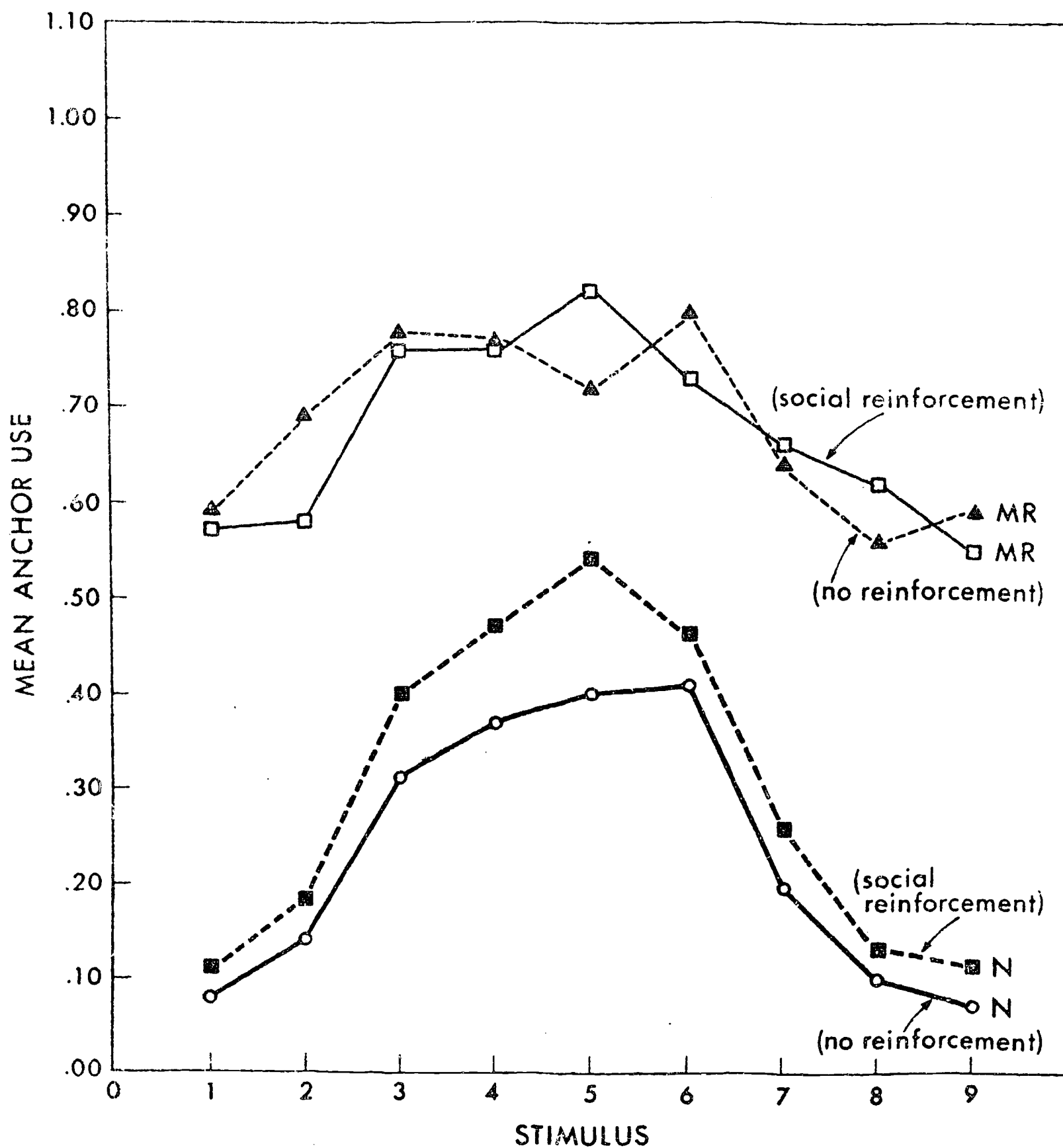


Figure 3.--Distribution of mean anchor use (ID score) for socially reinforced (SR) and non-reinforced (NR) retardates (MR) and normals (N).

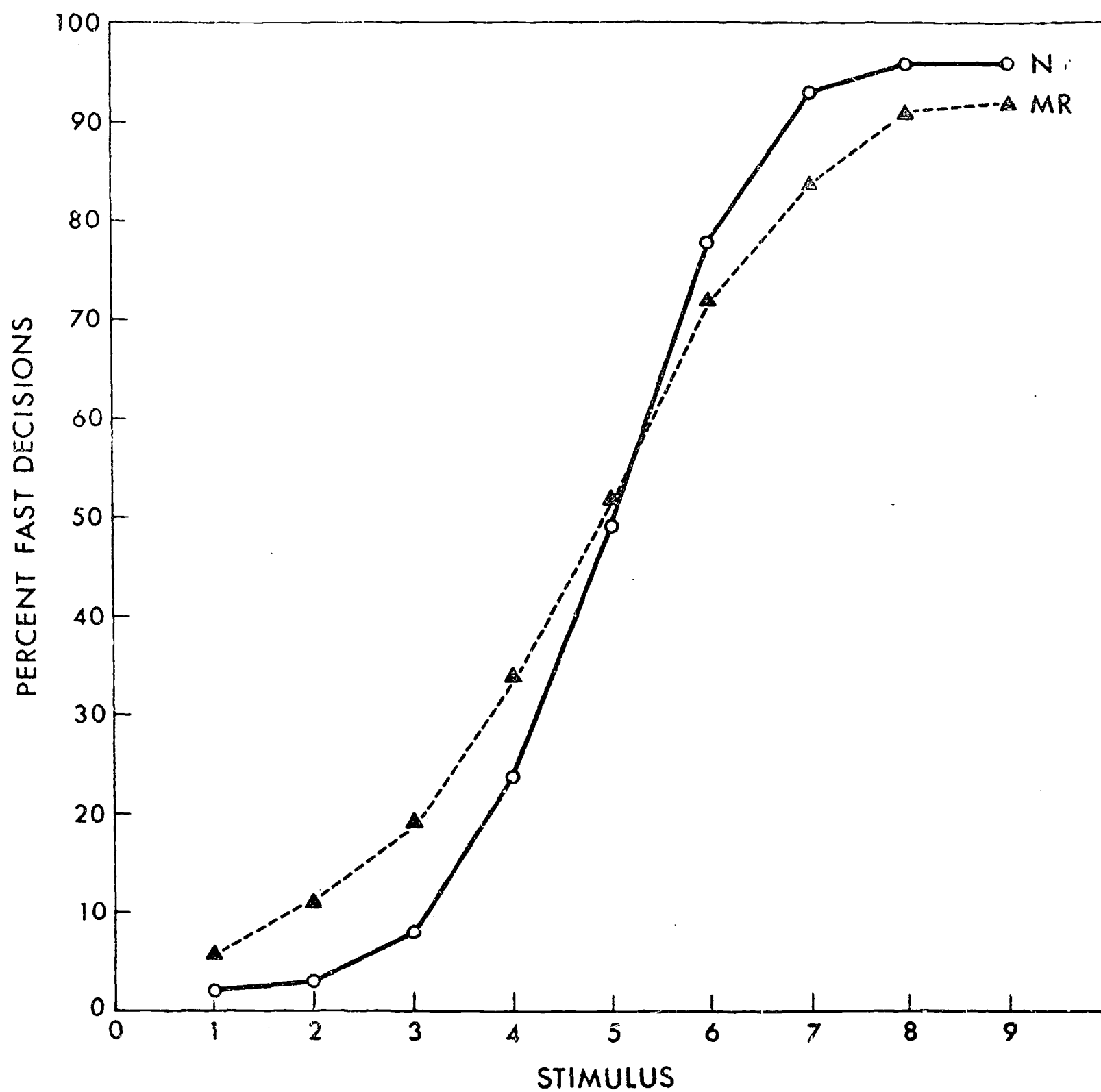


Figure 4.--Distribution of percent "Fast" decisions for each stimulus by retardates (MR) and normals (N).

42.

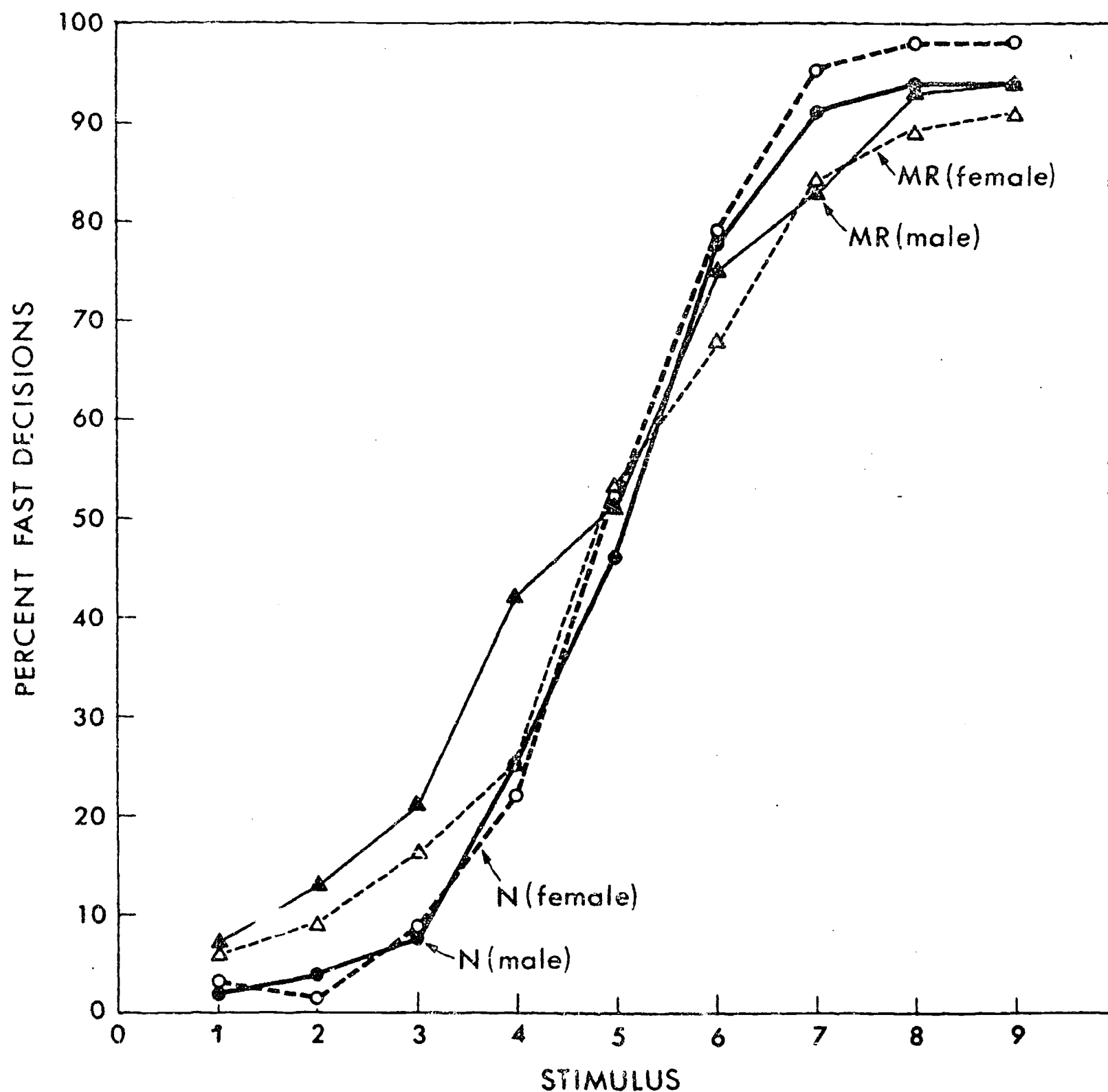


Figure 5.--Distribution of percent "Fast" decisions for each stimulus by male and female retardates (MR) and male and female normals (N).

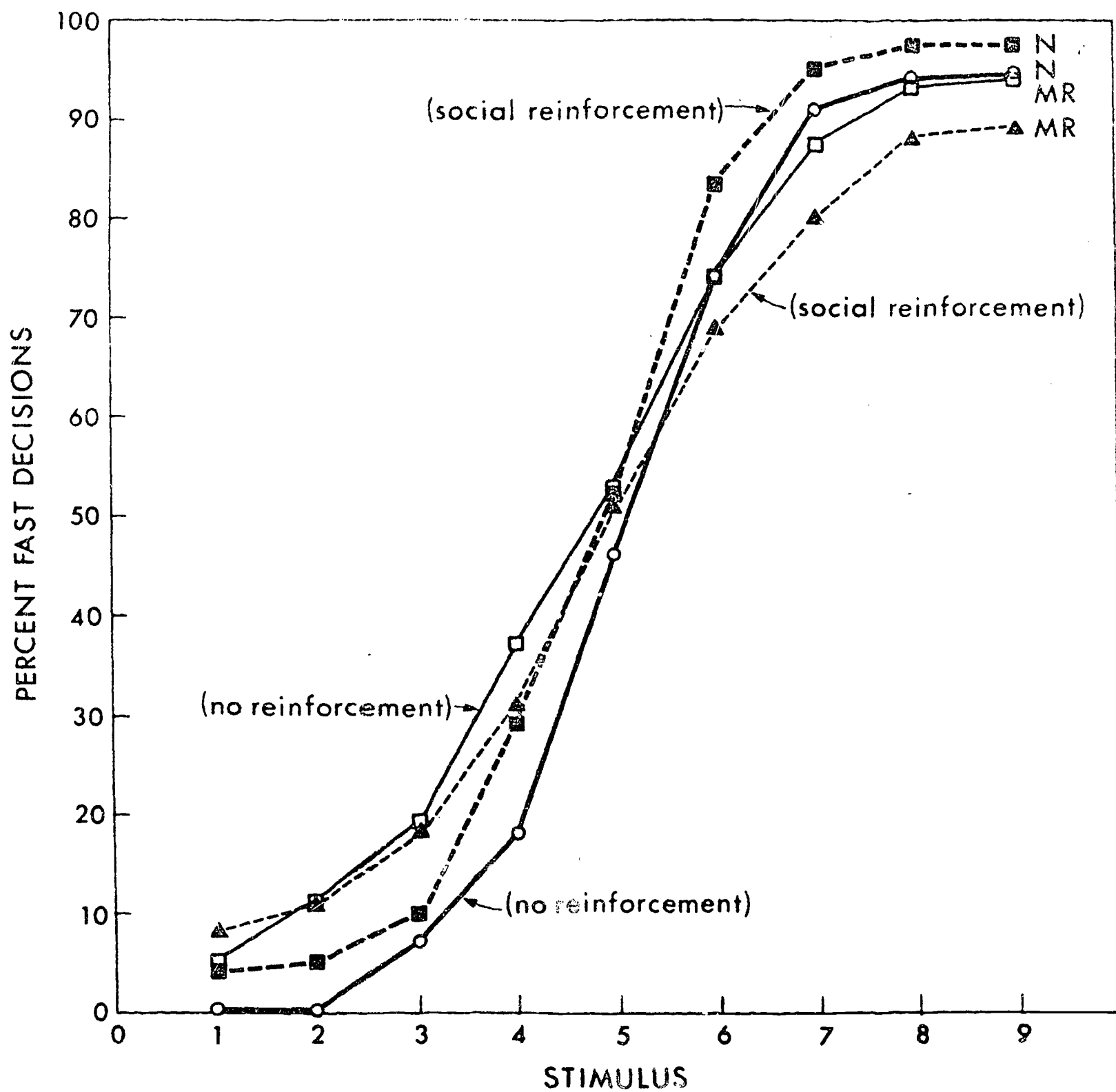


Figure 6.--Distribution of percent "Fast" decisions for each stimulus by socially reinforced (SR) and non-reinforced (NR) retardates (MR) and normals (N).

Appendix C

Public School Materials

Hanover Public Schools

ROBERT P. FOX

ASSISTANT CHIEF SUPERINTENDENT IN HANOVER



CURTIS SCHOOL, 849 MAIN STREET
HANOVER, MASSACHUSETTS 02339

TEL. 878-0758

December 2, 1969

Dr. Sylvia Shienkopf
Project Director
Saint Coletta's School
376 Washington Street
Hanover, Massachusetts 02339

Dear Dr. Shienkopf:

The Hanover School Committee approved the distribution of the Parent Letter to the students in Sylvester and Salmond Schools with the understanding that the Hanover School Department cannot officially endorse this project but will cooperate with you and Saint Coletta's in this activity.

When you have the forms ready for distribution, please contact the principals involved for suggestions and implementation of this activity.

Sincerely,

A handwritten signature in cursive script, reading "Robert P. Fox".

Robert P. Fox
Superintendent of Schools

F;d

cc Sister Shawn, Director
Mr. Philip O'Neil, Sylvester School
Mr. Walter Sweeney, Salmond School

June 1, 1970

Dear Parent:

St. Coletta's School is undertaking a basic research study which will be investigating some aspects of learning theory. It will be a comparative study of normals (grades 3 through 7) and educable retardates in a learning situation. A small number of students at the Salmond, Cedar and Sylvester Schools will be included in this educational research.

The actual study will be conducted at St. Coletta's School on weekdays through part of the summer vacation months and into September, 1970. Following the close of the Hanover School System on June 18, testing at St. Coletta's will be as follows:

1. From June 22 through June 30.
2. No testing during July.
3. Testing from August 10 through August 28.
4. Testing in September will not interfere with regular school hours.

Appointments will be arranged, individually, with each parent by my research aide. Transportation will be provided. The time involved for each student will be about one hour. The procedure is a very simple one and is considered a very interesting experience by the students.

If you are willing to have your child take part in this educational study, please fill in the attached form and return it to the principal's office of your school as soon as possible.

Thank you for your cooperation.

Sylvia Sheinkopf, Ed. D.
Sylvia Sheinkopf, Ed.D.
Project Director

St. Coletta's School
Hanover, Mass. 02339

STUDENT INFORMATION SHEET

NAME:

ADDRESS:

TELEPHONE:

BIRTHDATE:

AGE:

SCHOOL:

GRADE
(as of 9/70):

APPOINTMENT PREFERRED: (please check)

_____	June 22 through June 30
_____	August 10 through August 28
_____	September

(Signature) _____

Parent or Legal Guardian

Appendix D

Rohde Sentence Completion Test

Subject:
Date: 0

1

HOME SENTENCE COMPLETION TEST

DIRECTIONS:

I am going to read you some sentences and I would like you to finish them as quickly as possible. Just say whatever comes into your mind. For example, I will say to you: "The door...." What will you say? (Record answer verbatim.) That's fine. Now, I will say: "My class..." (Answer) That's the way. And if I say: "I wonder...." (Answer) That was very good. You really knew how to do this. I think we're ready to begin. Remember, just say whatever comes into your mind.

1. My work _____
2. The future _____
3. I want to know _____
4. Our family _____
5. I feel _____
6. The teaching _____
7. Much of the time _____
8. Many often _____
9. If I _____
10. Working _____
11. I suffer _____
12. Friends _____
13. My mother _____
14. There are time _____
15. Eating _____
16. My mind _____
17. I sleep _____

Subject:
Sex :

2

18. My greatest wish*_____
19. God _____
20. My imagination _____
21. Most men _____
22. My clothes _____
23. The laws we have _____
24. I fear _____
25. My greatest trouble _____
26. Earning my living _____
27. Many of my dreams _____
28. When nobody knows, I*_____
29. My stomach _____
30. I cannot understand what makes me _____
31. Most people _____
32. My father _____
33. Religion _____
34. My worst _____
35. I am very _____
36. While I'm young*_____
37. I want to hurt myself*_____
38. When someone gets something I want*_____
39. At night _____
40. My looks _____
41. The dark _____
42. I worry the most about*_____
43. When _____

Subject:
Sex :

3

44. Fighting _____
45. Children _____
46. My health _____
47. I feel most proud of _____
48. Girls usually _____
49. Death _____
50. Mostly, I wish I was able to* _____
51. I like best _____
52. My habits _____
53. I try to get _____
54. Love _____
55. I get pleasure from _____
56. My teachers _____
57. I am sorry _____
58. At home _____
59. I feel hurt _____
60. Often I think _____
61. I become embarrassed _____
62. My head _____
63. No one _____
64. I am ashamed _____
65. My education _____

*Sentence stems have been re-worded to insure comprehension by retardates.
The concept, however, remains intact.

52.

58